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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/295,273 04/20/99 SUMITOMO

N 2927-0103F

002292 QM32/0321
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EXAMINER

VARMA, S

ART UNIT	PAPER NUMBER
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3711

DATE MAILED: 03/21/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary

Application No.
09/295,273

Applicant(s)

Sumitomo et al.

Examiner

Sneh Varma

Group Art Unit

3711

☒ Responsive to communication(s) filed on Jan 11, 2001

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1 and 4-9 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1 and 4-9 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

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--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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DETAILED ACTION

Response to Amendment

1. This office action is in response to applicant's amendment filed January 11, 2001, in which Claims 2 and 3 were canceled and Claims 1 and 4 were amended. In response to applicant's amendment, the examiner has set forth a rejection below.

Claim Rejections - 35 USC § 102/103

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 and 4-9 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kawamatsu '573 (Kawamatsu)..

Kawamatsu discloses a golf club shaft (Figure 1-12; Column 2, lines 37-50) having a plurality of fiber reinforced resinous layers 6a and 6b, which are layered one upon another in a

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winding state, wherein one or more layers of the layers 6a and 6b, (Figure 2) are inclined fiber reinforced resinous layers in which reinforcing fibers are oriented at angles not 0° and 90° with respect to an axis of the golf club shaft 1, (Figures 1-4) (see 6a and 6b, Figure 4).

Kawamatsu discloses the same structure as claimed, therefore it has the same properties as claimed.

Regarding Claims 1 and 4, layers 6a and 6b meet the limitation of the claims (Figures 1-12;) showing unintegral turns of the fiber reinforced resinous layers wound by more than one turn is $N+0.5$, where N is disclosed as an integer clearly more than 1 (see Figure 4) and the first fiber reinforced resinous layer and the second fiber reinforced resinous layer are bonded to form one prepreg sheet (Column 2, lines 37-45)

Kawamatsu discloses that the inclined fiber reinforced resinous layers are a first inclined fiber reinforced resinous layer in which reinforcing fibers are oriented at an angle of $+\text{Alpha}$ degree (Figure 2; Column 3, lines 25-36) with respect to an axis of the golf club shaft, wherein Alpha degree has a value of $0^{\circ} < \text{Alpha} < 90^{\circ}$, (Figure 4; also see H on layers 6a and 6b, Figure 2; Column 2, lines 39-48), and a second inclined fiber reinforced resinous layer in which reinforcing fibers are oriented at an angle of minus Alpha degree with respect thereto, wherein, the second inclined fiber reinforced resinous layer is adjacently layered on the first inclined fiber reinforced resinous layer in a winding state at one portion, or more, a winding start position of the first inclined fiber reinforced resinous layer and a winding start position of the second inclined fiber reinforced resinous layer are spaced at 180° (Figure 4) in a circumferential direction of the

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golf club shaft; and the first inclined fiber reinforced resinous layer and the second inclined fiber reinforced resinous layer are wound by $N+0.5$ turns, respectively where N is an integer more than one. Kawamatsu discloses the same structure as claimed, therefore the shaft has the same anisotropic properties to as claimed.

Regarding Claims 8-9, Kawamatsu discloses that one or more of the fiber reinforced resinous layers 6c or 6d, have reinforcing fiber whose orientation angle is 90° and/or 0° with respect to the axis of the shaft and that the fiber reinforced resinous layers are composed of prepreg sheets (Column 2, lines 42-45).

However, Kawamatsu fails to disclose characteristics of the shaft. It would have been obvious to one having ordinary skill in the art at the time the invention was made to recognize that Kawamatsu discloses the same structure of the shaft as claimed, therefore it would be obvious to one of ordinary skills in the art that the Kawamatsu shaft would have the same properties as claimed. Regarding Claims 5-7, Kawamatsu discloses the structure wherein a part of the inclined fiber resinous layer corresponding to decimal turns obtained by substructing integral turns from the unintegral turns forms an anisotropic region and an angle of the reinforcing fiber of the anisotropic region is different from that of other region in a circumferential direction of the shaft. It would be obvious to one of ordinary skills in the art that the same anisotropic property is applied to the Kawamatsu shaft by the anisotropic region, as claimed by the inventor, so that the shaft is twisted by a flexure thereof when the shaft is swung.

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Response to Arguments

5. Applicant's arguments with respect to the rejection of Claims 1-9 under 35 U.S.C. 102(b) as being clearly anticipated by Kawamatsu have been carefully considered, but all the arguments are not deemed persuasive. Kawamatsu discloses the same structure as claimed, therefore it has the same anisotropic properties as claimed. Kawamatsu does disclose a golf club shaft having a plurality of fiber reinforced resinous layers that are layered one upon another in a winding state. More precisely, a first inclined fiber reinforced resinous layer 6a. (Figure 2) that is oriented at an angle of Alpha degrees has a value of $0^{\circ} < \text{Alpha} < 90^{\circ}$, and a second inclined fiber reinforced resinous layer that is oriented at an angle of minus Alpha degrees with respect thereto. The winding position of the first inclined fiber reinforced resinous layer and the winding position of the second inclined fiber reinforced resinous layer are clearly spaced 180° (see Figure 4) in a circumferential direction of the golf club shaft. And the first inclined fiber reinforced resinous layer and the second inclined fiber reinforced resinous layer appear to be wound by $N + 0.5$ unintegral turns, respectively. Since Kawamatsu discloses the same structure as claimed, therefore it has the same anisotropic properties as claimed. In response to applicant's amendments and arguments and the cancellation of the Claims the Examiner has set forth a new rejection above.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is

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reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Varma whose telephone number is (703) 308-8335. The examiner can normally be reached on Monday to Friday from 8:00 A.M. - 4:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's Supervisor, Jeanette Chapman, can be reached on (703) 308-1310. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7768. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1078.

March 15, 2001

Sneh Varma, Patent Examiner

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JEANETTE CHAPMAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700

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